



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/829,269

04/22/2004

Richard B. Evans

05165.1520

6459

66060 7590 12/05/2008

BAKER & HOSTETLER, LLP  
FOR BOEING COMPANY  
WASHINGTON SQUARE, SUITE 1100  
1050 CONNECTICUT AVENUE, N.W.  
WASHINGTON, DC 20036

EXAMINER

LEE, LAURA MICHELLE

ART UNIT

PAPER NUMBER

3724

MAIL DATE

DELIVERY MODE

12/05/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/829,269

**Applicant(s)**

EVANS, RICHARD B.

**Examiner**

LAURA M. LEE

**Art Unit**

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) 10-24 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/CDC)  
4) ☐ Interview Summary (PTO-413)  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_  
Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/22/2008 has been entered.
2. Claims 1-10, 12-24 are pending, claim 1 is currently amended, and claims 10 and 12-24 are withdrawn.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

4. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The amendment to claim 1, disclosing a "T-shaped insert" is the same insert as being claimed in claim 5.

Claims 6 and 7 are objected to because of the following informalities:

The dependencies of claims 6-7 should be changed from "according to claim 5" to --according to claim 1--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks (U.S. Patent 6,720,058) in view of Hreha (U.S. Patent 4,077,290). Weeks discloses an anvil (mandrel 472; Figure 19) for providing support to a backed ply material (yam) during a cutting operation by an ultrasonic blade, the backed ply material in a first direction, the ultrasonic blade having a cutting profile, the ultrasonic blade being operable to travel along a path, the path being orientated in a transverse manner relative to the first direction, the anvil comprising: a rigid base (472) for securing the anvil to the cutting assembly; a channel (not shown; corresponding to the inserts also not shown; see col. 27, lines 25-28) in the rigid base and coinciding with the path; an insert (also, not shown; see col. 27, lines 25-28) to mate with the channel; a surface on the insert to support the backed ply material, the surface being secured to the base; and a groove (guide groove) disposed upon the surface and coinciding with the path, the

groove having a curved profile corresponding to a tip portion of the cutting profile, the groove providing support during butt cutting operations, slit cutting operations, and taper cutting operations, wherein a backing of the backed ply material is urged into the groove during the cutting operation (see col. 27-lines 1-31). Weeks does not disclose that the inserts and channels are an inverted T-shape. However, attention is directed to Hreha that discloses another insert possessing an inverted T-shape that mates with a corresponding inverted -T shaped channel. Hreha discloses that providing inserts of a variety of shapes (see at least Figure 2 and 7) is well known in the art as they allow the insert to be removably secured within the channel. T-shaped inserts unlike rectangular inserts hinder the movement of the insert in the forward direction. It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the inserts of Weeks to comprise a T-shape as taught by Hera as T-shaped inserts are old and well known in the art for improvements in more secure, yet detachable connections.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks in view of Hreha and in further view of Loose (U.S. Patent 3,683,736). The modified device of Weeks discloses the claimed invention, but is silent as to the material of the base, 472. However, attention is directed to the Loose device that also discloses an anvil (11) utilized for ultrasonic perforation of film and paper material. Loose discloses (column 2, lines) that the anvil is made of a dense rigid material, such as steel or other metal to support photographic paper or film. It would have been obvious to form

the anvil of metal as taught by Loose to ensure that the anvil is not damaged by the cutting action as taught by Loose.

In regards to claim 4, since the back rail, like the anvil, is also capable of supporting the backed ply material, for the previously expressed reason of ensuring that the back rail is not damaged by the cutting action, it also would have been obvious to one having ordinary skill in the art at the time of the invention to have made the back rail and consequently the grooved surface of the back rail, out of steel or other metal as taught by the teachings of Loose.

Additionally, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

8. Claims 7-9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Weeks and Hreha, and in further view of Greve et al. (U.S. Patent 5,072,640). Herein Greve et al. shall be referred to as Greve. The modified device of Weeks, does not disclose that the insert comprises nylon or DELRIN® (ultra high molecular weight polymers). However, attention is directed to the Greve device that discloses a cylindrical shaped anvil located substantially across the length of the conveyor belt module being cut such that it provides support to the modules along a line directly opposite the length of the blade as the blade cuts through the modules. Greve discloses that DELRIN® is a very suitable material for the anvil. DELRIN® yields slightly under pressure to provide some stress relief to the anvil by absorbing the impact energy from the cutter, thereby

prolonging the life of the cutting surface. It would have been obvious to form the anvil of Weeks from DELRIN® to provide protection of the cutting surface and prolong its usable life as taught by Greve. As previously discussed, the back plate and thus the insert are also cutting surfaces capable of providing support to the material that is being cut by a cutting edge. Therefore, it also would have been obvious to form the back plate and thus the grooved insert from DELRIN® to provide protection of the cutting surface and prolong its usable life as taught by Greve. Additionally, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

9. Claim 1 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Carlson et al. (U.S. Publication 2004/0079208), herein referred to as Carlson in view of Manabe et al. (U.S. Patent 5,480,508), herein referred to as Manabe and in further view of Weeks (U.S. Patent 6,720,058) and Hreha (U.S. Patent 4,077,290). Carlson discloses an anvil (base plate, 26) capable of providing support to a backed ply material cut by an ultrasonic blade (30), the backed ply material traveling in a first direction (along the longitudinal length of the base, 26), the ultrasonic blade having a tip, the ultrasonic blade being operable to travel along a path (122), and the path being oriented in a transverse manner relative to the first direction (page 5, paragraph 42). Carlson discloses the anvil comprising a rigid base (26) for securing the anvil to a cutting assembly, a surface coinciding with the path (the grooved portion of the base plate's back rail, 40), the surface being secured to the base

(page 3, paragraph 24), and a groove disposed upon the surface (the grooved portion of the base plate's back rail, 40), the having a curved profile complimentary to the profile of the tip (shown in Figure 1).

However, to the extent that it can be argued that the limitations of the preamble directed to the ultrasonic blade breathe life and breath to the claim and are therefore part of the claim limitations, it is noted that Carlson does not disclose that the ultrasonic blade has a curved profile. However, attention is directed to the Manabe discloses the use of a curved ultrasonic blade to cut a prepreg tape, and that the blade can be an assortment of shapes, corresponding to Figures 10(A)-10(E).. Manabe discloses that the different shapes are utilized for different cutting purposes (column 14, lines 14-31). For instance, the cutting blade, 655a, as similarly disclosed by Carlson is useful for cutting in one direction. However, the ultrasonic blades with curved profiles, 655b/655c, are used to cut while being reciprocated and to form circular openings. It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the cutting blade of Carlson to have a curved profile as taught by Manabe so that the cutting apparatus was versatile for a variety of applications as desired by the operator.

Additionally it is noted that as modified, the tip of Carlson would be complementary to the grooves curved profile, as the limitation "complementary" has been interpreted as meaning as "forming or serving as a complement; offsetting mutual lacks" as defined by The American Heritage® Dictionary of the English Language: Fourth Edition. 2000. Therefore, Carlson as modified by Manabe discloses groove



profile complimentary to the curved profile of the tip in as much the as the applicant's blade tip and groove profile complement each other.

Although it appears that the groove is a an insert situated between clamps 42 and 44 as viewed from Figure 1, Carlson does not positively identify the groove as a separate piece from the back rail and also does not disclose that it is formed of an invented T-shape that mates with an inverted T-shaped channel. However, attention is directed to the Weeks device that does disclose a groove situated under an ultrasonic tool, a horn, where its recognized that replaceable inserts can be used for the groove portion directly under the horn so that worn groove areas can be simply replaced without replacing the entire mandrel (base). It would have been obvious to one having ordinary skill in the art at the time of invention to have constructed the grooved section of back plate, 40, of Carlson between clamps 42 and 44, to be a removable insert (if not already), in view of the teachings of Weeks to be a separable and replaceable entity thereby inducing a cost and time savings if the part required replacement.

Although the modified device of Carlson discloses a removable insert with a groove, Weeks is silent as to the shape of the insert and therefore does not disclose that the insert is an inverted T shape. However, further attention is directed to Hreha that discloses another insert possessing an inverted T-shape that mates with a corresponding inverted -T shaped channel. Hreha discloses that providing inserts of a variety of shapes (see at least Figure 2 and 7) is well known in the art as they allow the insert to be removably secured within the channel. T-shaped inserts unlike rectangular inserts hinder the movement of the insert in the forward direction. It would have been

obvious to one having ordinary skill in the art at the time of the invention to have modified the inserts of Carlson/Weeks to comprise a T-shape as taught by Hera as T-shaped inserts are old and well known in the art for improvements in more secure, yet detachable connections.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA M. LEE whose telephone number is (571)272-8339. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Laura M Lee/  
Examiner, Art Unit 3724  
12/4/2008

/Boyer D. Ashley/  
Supervisory Patent Examiner, Art Unit 3724